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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,851	11/04/2003	Andrew C.P. Liu	TS01-1542	5803

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EXAMINER	
RADTKE, MARK A	
ART UNIT	**PAPER NUMBER**
2165	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/700,851	LIU, ANDREW C.P.	
	Examiner	Art Unit	
	Mark A. X Radtke	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. In response to communications filed on 23 May 2007, claims 1-26 are presently pending in the application, of which, claim(s) 1, 9, 14 and 22 is/are presented in independent form.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeyaraman (U.S. Pat. No. 6,311,187) and in view of Peters ("Advanced Tutorial – Simulation-Based Scheduling and Control" from Proceedings of the 1996 Winter Simulation Conference).

As to claim 1, Jeyaraman teaches a method of improving the performance of a relational database data reduction from a source database to a target database (see Abstract), comprising of:

analyzing time and date stamp of a record in the source database to determine if the record has been changed (see figure 3, step 308 and column 5, lines 43-47);

in response to a determination that the record has been changed, locating the record in a target table of the first equipment in the target database based on an identifier of the lot in the record (see column 5, lines 56-60);

deleting the record from the target table of the first equipment in the target database (see column 5, lines 56-60); and

inserting the record into a target table of the second equipment in the target database (see figure 3, step 316 and column 6, lines 16-18).

Jeyaraman does not explicitly teach

analyzing time and date stamp of a record in the source database to determine if the record has been changed as a result of a change of position of a lot from a first equipment to a second equipment.

Peters teaches a method of improving the performance of a relational database data reduction from a source database to a target database (see Abstract), comprising of:

analyzing time and date stamp of a record in the source database to determine if the record has been changed as a result of a change of position of a lot from a first equipment to a second equipment (see section 3, "Definition of States", pages 195-196, spanning paragraph through Table 1 and see also section 2, "Environment", page 195, left and right columns, spanning paragraph).

Therefore, it would have been obvious to one of ordinary skill in the relevant art at the time the invention was made to have modified Jeyaraman by the teaching of Peters because "[t]he combination of a MES [Manufacturing Execution System] system with a database system is extremely common" (see Peters, section 4, paragraph 4, lines 3-5).

As to claims 2 and 15, Jeyaraman, as modified, teaches wherein the target table of the first equipment includes at least one lot that is associated with the first equipment (see column 5, lines 56-60).

As to claims 3 and 16, Jeyaraman, as modified, teaches wherein the target table of the second equipment includes at least one lot that is associated with the second equipment (see column 5, lines 56-60).

As to claims 4, 12, 17 and 25, Jeyaraman, as modified, teaches wherein the analyzing step, the locating step, the deleting step and the inserting step are performed by a loader program (see Abstract).

As to claims 5 and 18, Jeyaraman, as modified, teaches wherein the record in the source database that has been changed is no longer valid (see column 5, lines 33-54).

As to claims 6 and 19, Jeyaraman, as modified, teaches wherein the source database comprises a source table of the first equipment and a source table of the second equipment (see Peters, Table 1).

As to claims 7, 10, 20 and 23, Jeyaraman, as modified, teaches wherein the source table of the first equipment is synchronized with the target table of the first equipment, and wherein the source table of the second equipment is synchronized with the target table of the second equipment (see column 2, lines 1-24).

As to claims 8 and 21, Jeyaraman, as modified, teaches wherein the record in the target table can be exported to another database or software system (see column 4, lines 42-45).

As to claim 9, Jeyaraman teaches a method for refining data replication between a source database and a target database (see Abstract), comprising of:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claims 11 and 24, Jeyaraman, as modified, teaches wherein the determining step comprises analysis of time and date stamp of the record in said source database (see Examiner's comments regarding claim 1).

As to claims 13 and 26, Jeyaraman, as modified, teaches wherein said loader program is capable of displaying on a central monitor a manufacturing equipment environment and a lot status (see figure 1, Display 108).

As to claim 14, Jeyaraman teaches a system for improving the performance of a relational database data reduction from a source database to a target database (see Abstract), comprising of:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claim 22, Jeyaraman teaches a system for refining data replication between a source database and a target database (see Abstract), comprising of:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

Response to Arguments

4. Applicant's arguments filed on 23 May 2007 with respect to the rejected claims in view of the cited references have been fully considered but are not deemed persuasive.

In response to Applicant's arguments that Jeyaraman does not teach "locating the record in a target table of the first equipment in the target database based on an identifier of the lot in the record, and then deleting the record from the target table of the

first equipment in the target database", the arguments have been fully considered but are not deemed persuasive. Jeyaraman teaches a data propagation algorithm from one computing device to another. Records are "located" every time that they are used by the system; locating data merely means looking it up in memory, an operation that must be performed any time data is to be used (See, for example, figure 3, step 304 "determine if client has copy of data" and column 6, line 25, "user can view the data". A prerequisite for either operation would be to look up specific records). Jeyaraman explicitly states deleting records (see column 5, line 60, "delete operations"). Jeyaraman deals generally with data synchronization and admittedly does not mention automated manufacturing processes. However, Peters teaches automated manufacturing generally and multiple-stage fabrication with routing and hand-offs specifically (see for example, section 4, "Information System", paragraph 2). The fact that objects (the "equipment" of the claims) are routed implies that there are multiple stages (or "tables") where the objects are worked on (Peters' "tasks"). Peters' system is database-driven and thus known database methods can and would be applied to improve the performance of the system. So, even if Jeyaraman does not teach moving equipment between tables, one of ordinary skill in the art would infer that the combination of Peters and Jeyaraman would result in the claimed invention: an automated manufacturing system with data propagation.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications should be directed to the examiner, Mark A. Radtke. The examiner's telephone number is (571) 272-7163, and the examiner can normally be reached between 9 AM and 5 PM, Monday through Friday. If attempts to contact the examiner are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached at (571) 272-4146. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (800) 786-9199.

maxr
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5 August 2007

JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100